Gabriel Roeder Smith & Company
Consultants & Actuaries

CITY OF WARWICK, RHODE ISLAND
MUNICIPAL EMPLOYEES' RETIREMENT PLAN

ACTUARIAL VALUATION REPORT AS OF JULY 1, 2010

JUNE 2011

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DISCUSSION

I. Purpose and Summary

This report presents the results of our July 1, 2010 actuarial valuation of the City of Warwick, Rhode Island Municipal Employees' Retirement Plan. The valuation, which was performed at the request of the City of Warwick, determines the City's contribution level for the plan years beginning July 1, 2011 and July 1, 2012.

The contribution amount determined by the valuation for the 2010-2011 plan year is $4,824,510, or 24.0% of covered payroll. In accordance with Section 60-442 of the City's Ordinance governing the plan, this result is used to determine the projected contribution requirements for the 2011-2012 and 2012-2013 plan years as follows:

Plan Year	City Contribution
2011-2012	$ 5,005,429
2012-2013	$ 5,193,132

These amounts are the result of projecting the contribution requirement determined by the valuation for FY2011 forward to FY2012 and FY2013 at 3.75%, the assumed rate of payroll growth. The development of the valuation results is shown in Tables 1 through 6 and is described in more detail on the following pages.

II. Membership Data

The City furnished data for active, terminated, and retired members as of July 1, 2010. Although we did not audit this data, we did review it for reasonableness and consistency with the data collected in the previous valuation (prepared as of July 1, 2008). Table 4 provides a distribution by age and service for active members.

III. Plan Provisions

A summary of the principal plan provisions recognized for purposes of the valuation is provided in Table 6. There were no material changes made to the plan's benefit provisions since the previous valuation. However, the member contribution rate has been increased from 7.00% to 8.00%. There were no cost-of-living increases provided to the retirees since the prior valuation, in accordance with Section 60-399 of the City's ordinances.

IV. Assets

All information about the assets held by the trust fund, including the market value, the amount of the City's and members' contributions, benefit payments and the fund's earnings, was obtained from the City's financial statements for the fiscal years ending June 30, 2009 and June 30, 2010. Table 3 provides information about investment return and a reconciliation of assets at market value.

As shown in Table 3, the market value of the assets in the trust was $74,874,773 as of June 30, 2010. The dollar-weighted rates of return on the market value of assets were -16.4% for the 2008-2009 plan year and 13.6% for the 2009-2010 plan year.

In conjunction with this valuation, GRS recommends changing the method for determining the actuarial value of assets (AVA) which is used to determine the contribution rates and funded status of the retirement system. We recommend that the plan use a 5-year smoothed asset value rather than the market value of assets. This smoothed method used to compute the AVA takes the difference between actual earnings and expected earnings (based on the assumed investment return rate) each year, and recognizes the difference over five years, at 20% per year.

A 5-year smoothed value is the most predominate asset valuation method utilized by public sector retirement programs, is used by all the retirement systems that are part of the Employees' Retirement System of Rhode Island (ERSRI), and is used in the City's actuarial valuations of the police and fire plans. The most significant advantage to using this asset valuation method is it reduces the volatility in the contribution rates due to short-term volatility in the plan's investment experience.

Please note that this is a change in the method used to derive the valuation assets, which have historically been based on the market value adjusted for the COLA bank. This change occurred to be consistent with the City's other plans and to be consistent with the ERSRI methodologies. Although this means that recognition of part of the FY 2008-FY2009 investment losses are being deferred, the additional contributions required in future years because of this will in part be offset by the fact that net actuarial losses from 1992 and 1994 will be completely amortized over the next four years, and the charges for these items will disappear from the calculations.

The actuarial value of assets determined above is then further adjusted to reflect the COLA bank. ("Excess" investment returns are "set aside" or "banked" to provide for future retiree cost-of-living calculations.) As of July 1, 2010, the COLA bank continues to have a negative value. Therefore, there are no amounts subtracted from the valuation asset amount in this valuation, and there will be no COLA provided at July 1, 2011 or July 1, 2012.

V. Actuarial Methods and Assumptions

The results of the actuarial valuation, including the calculation of the liabilities and contributions, are dependent on the actuarial assumptions used. As a result of an assumption review, the actuarial assumptions used for the July 1, 2010 actuarial valuation have been revised since the previous valuation. The actuarial methods and assumptions employed in this valuation are discussed below and are described in detail in Table 5 of this report. Primary economic assumptions include a 7.50% investment return and a service related compensation increase assumption. The Entry Age Normal actuarial cost method continues to be used to determine liabilities for funding purposes.

Significant changes were made to the annual investment return and the post-retirement mortality for retirees. Less significant changes were made to termination rates, disability rates, and the rate of salary increases. Also, the assumed payroll growth was decreased. More detail on the changes adopted as a result of the experience study is in the next section and in Table 5. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of MERS.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods.

The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

VI. Discussion of the Changes to the Assumption and Methods

Earlier this year, GRS performed an assumption review for the Employees' Retirement System of Rhode Island (ERSRI), which included a review of the economic and demographic experience of the Rhode Island Municipal Employees' Retirement System (MERS). The study examined the assumptions used for expected investment rate, inflation rate, retirement, mortality, termination, disability, salary increases, payroll growth, and other miscellaneous assumptions. ERSRI has adopted updated assumptions as a result of this analysis. While the City of Warwick Municipal Retirement Plan (Warwick MERP) was not included in this analysis, we believe that the future experience of Warwick MERP, with regard termination, disability, mortality, and compensation increases will be similar to those expected in other municipal retirement systems in Rhode Island. Therefore, we believe these updated assumptions are consistent, reasonable, and more accurately portray the retirement system's liability and cost.

GRS's recommended assumption changes for Warwick MERS include:

1. Decrease the annual investment rate of return (net of expenses) from 8.00% to 7.50%.
2. Change the salary increase assumption from a 5.25% annual increase assumption to a service related assumption that ranges from an 8.0% increase for newly hired members to 4.0% annual increases for members with 15 or more years of service.
3. Decrease the payroll growth assumption from 4.00% to 3.75%. This assumption does not assume any growth in the number of active members.
4. Modify the rates of withdrawal. Rates were increased for members with less than 5 years of service and reduced for members with more than 5 years of service.
5. Increase the rate of retirement for members who attain 80 points before their normal retirement age.
6. Modify the post-termination mortality assumption for retirees to more closely reflect anticipated plan experience and to reflect an assumption of continual future improvement in life expectancy.

In addition, GRS recommended changing the method for determining the actuarial value of assets (AVA) which is used in ultimately determining the contribution rates and funded status of the retirement system.

The actuarial methods and assumptions employed in this valuation are discussed above and are described in detail in Table 5 of this report.

VII. Funding Policy

The City's annual contribution to the plan is actuarially determined and is based upon a funding policy which provides for the payment of the normal cost with interest plus an amount which will amortize the unfunded actuarial accrued liability. Increases or decreases in the actuarial accrued liability attributable to plan changes, changes in assumptions or methods, or experience gains or losses are amortized as a level percentage of pay over a 20 year period from the date they are determined.

Effective with the City's restated Ordinance adopted during 1993, the results of each actuarial valuation are used to project the City's contribution requirement for the following two plan years. Accordingly, the 2011-2012 and 2012-2013 contribution requirements are equal to the 2010-2011 valuation result, projected with 3.75% growth, our assumed payroll growth assumption.

VIII. GASB 25

The liabilities and contributions produced by this valuation were determined in accordance with the requirements of Statement No. 25 of the Governmental Accounting Standards Board.

The plan's funded ratio—the actuarial value of assets divided by the actuarial accrued liability, is 70.9%, compared to 79.2% in the preceding valuation. If the market value of assets were used, rather than the actuarial value, the funded ratio at July 1, 2010 would be 61.0%.

GASB 25 requires that governmental plans determine an Annual Required Contribution (ARC) using an amortization period not in excess of 30 years. The plan's contribution, determined in accordance with city ordinances, complies with this requirement. The amortization payment, determined using separate 20-year periods for each base established historically, is equivalent to an amortization of the entire unfunded actuarial accrued liability over 14.0 years. In other words, 14.0 years is the equivalent single amortization period.

The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

IX. Analysis of Valuation Results

Table 1 provides a comparison of the results from the July 1, 2008 and the July 1, 2010 actuarial valuations.

The City contribution rate for 2009-2011 determined by the 2008 valuation was 18.7% of covered pay. The actuarial experience affected the contribution as a percentage of pay as follows:

	FY 2010 & FY 2011 contribution percentage	18.7%
+	actuarial experience loss (gain)	4.6%
-	Increase in member contribution rate	-1.0%
-	effect of new asset valuation method (5-year smoothing)	-4.5%
+	effect of new actuarial assumptions	6.2%
=	FY 2012 & FY 2013 contribution percentage	24.0%

The amortization bases established to amortize the unfunded actuarial accrued liability arising from these sources, along with bases established in prior valuations, are presented in Table 2.

* * * * * * * * * * * * * *

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render actuarial opinions about this plan. This communication shall not be construed to provide tax advice, legal advice or investment advice.

We are available to answer any questions in connection with this valuation of the plan or the information presented in this report.

Sincerely,

Joseph Newton, FSA, MAAA
Senior Consultant

J. Christian Conradi, ASA, MAAA
Senior Consultant

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TABLE 1

Development of Contribution

	July 1, 2010	*July 1, 2008*
A. Membership Data		
1. Active members		
a. Number	414	435
b. Covered payroll	$ 20,064,146	$ 20,447,173
c. Average pay	$ 48,464	$ 47,005
d. Average attained age	47.8	46.5
e. Average past service	13.1	11.6
2. Retired members and beneficiaries		
a. Number	324	319
b. Average benefit being paid	$ 19,839	$ 19,219
3. Terminated members with vested benefits		
a. Number	19	23
b. Average deferred benefit payable at 65*	$ 15,643	$ 12,220
4. Number of non vested terminated members with contributions not yet refunded	8	24
B. Liabilities		
1. Actuarial accrued liability		
a. Active members	$ 60,747,025	$ 47,721,158
b. Retired members	60,006,316	53,757,918
c. Terminated members	1,968,429	1,611,615
d. Total	$ 122,721,770	$ 103,090,691
2. Valuation assets	$ 87,060,569	$ 81,654,940
3. Unfunded actuarial accrued liability [1(d) - 2]	$ 35,661,201	$ 21,435,751
4. Funded ratio [2 / 1(d)]	70.9%	79.2%
C. Determination of City Contribution		
1. Net normal cost		
a. Gross normal cost, with interest	$ 2,935,584	$ 2,554,220
b. Expected employee contributions	1,517,728	1,354,854
c. Net normal cost [(a) - (b)]	$ 1,417,856	$ 1,199,366
2. Amortization charges	$ 3,406,654	$ 2,621,064
3. City contribution [1(c) + 2]	$ 4,824,510	$ 3,820,430
4. Annual City contribution as a percentage of covered payroll	24.0%	18.7%

* Does not include 3% pre-retirement cost-of-living increases subsequent to valuation date.

TABLE 2

Determination of Changes in Unfunded Actuarial Accrued Liability

A. Reconciliation of Unfunded Actuarial Accrued Liability

1.	Expected unfunded actuarial accrued liability as of July 1, 2010	$ 19,446,009
2.	Increase (decrease) in unfunded actuarial accrued liability due to actuarial experience	$ 15,749,171
3.	Increase (decrease) in unfunded actuarial accrued liability due to change in asset method	$ (12,185,796)
4.	Increase (decrease) in unfunded actuarial accrued liability due to change of actuarial assumptions	$ 12,651,817
5.	Unfunded actuarial accrued liability as of July 1, 2010 [(1) + (2) + (3) + (4)]	$ 35,661,201

TABLE 2

Determination of Changes in Unfunded Actuarial Accrued Liability

(continued)

B. Summary of Amortization Bases

Date Established	*Purpose*	*Initial Amount*	*Remaining Balance as of July 1, 2010*	*2010-2011 Amortization Payment **	*Years Remaining as of July 1, 2010*
2/88	Initial Unfunded	$ 813,846	$ 0	$ 0	0
7/88	Experience Gain	(1,005,386)	0	0	0
7/90	Experience Loss	1,079,666	0	0	0
7/90	Amendment	2,018,598	0	0	0
7/90	Assumptions	302,685	0	0	0
7/92	Experience Loss	1,423,651	401,756	219,777	2
7/92	Amendment	1,628,966	459,701	251,476	2
7/92	Assumptions	(750,047)	(211,682)	(115,799)	2
7/94	Experience Gain	(1,547,820)	(766,587)	(217,119)	4
7/94	Amendment	2,888,951	1,430,822	405,250	4
7/94	Assumptions	291,906	144,523	40,933	4
7/96	Experience Loss	1,331,943	882,017	172,380	6
7/96	Assumptions	1,567,810	1,038,201	202,904	6
7/96	Method Change	(3,759,443)	(2,489,485)	(486,541)	6
7/98	Experience Gain	(2,187,165)	(1,722,144)	(261,170)	8
7/00	Experience Gain	(4,609,356)	(4,047,703)	(507,870)	10
7/00	Assumptions	2,301,296	2,020,886	253,563	10
7/00	Amendment	3,340,107	2,933,112	368,021	10
7/02	Experience Loss	10,898,868	10,251,913	1,108,120	12
7/04	Experience Loss	3,095,509	3,033,754	290,438	14
7/06	Assumptions	303,190	303,413	26,253	16
7/06	Experience Loss	110,219	110,301	9,544	16
7/08	Experience Loss	5,637,304	5,673,211	450,499	18
7/10	Experience Loss	15,749,171	15,749,171	1,161,622	20
7/10	Asset Method	(12,185,796)	(12,185,796)	(898,796)	20
7/10	Assumptions	12,651,817	12,651,817	933,169	20
Total			$ 35,661,201	$ 3,406,654	

*Assuming payment made at the end of the year.

TABLE 3

Asset Information

Composition of Fund as of June 30, 2010

		Market Value	Percentage of Total
1.	Cash and equivalents	$ 1,253,825	1.7%
2.	Equities, including index funds	41,066,906	54.9%
3.	Fixed income investments	31,631,680	42.2%
4.	Receivables less payables	922,362	1.2%
5.	Total	$ 74,874,773	100.0%

TABLE 3

Asset Information
Asset Reconciliation and Expected Returns

	FY 2007	FY 2008	FY 2009	FY 2010
1. Beginning of year market value	76,663,416	86,937,940	81,654,940	66,865,674
2. Contributions				
a. City	3,165,215	3,211,753	3,340,223	3,973,247
b. Member	1,374,228	1,458,793	1,566,119	1,625,137
c. Total	4,539,443	4,670,546	4,906,342	5,598,384
3. Benefits paid	(5,736,282)	(5,914,106)	(6,398,917)	(6,618,357)
4. Net return	11,471,363	(4,039,440)	(13,296,691)	9,029,072
5. End of year market value	86,937,940	81,654,940	66,865,674	74,874,773
6. Net market return	15.08%	-4.68%	-16.43%	13.61%
7. Expected market value				
a. Beginning of year	76,663,416	86,937,940	81,654,940	66,865,674
b. Net cash flow	(1,196,839)	(1,243,560)	(1,492,575)	(1,019,973)
c. Earnings assumption	8.00%	8.00%	8.00%	8.00%
d. Expected earnings	6,085,200	6,905,293	6,472,692	5,308,455
e. Excess/(shortfall)	5,386,163	(10,944,733)	(19,769,383)	3,720,617

TABLE 3

Asset Information
Development of Valuation Assets

1. Market value as of June 30, 2010 $ 74,874,773

2. Adjustment for investment gain/(loss) to be recognized:

Period	Investment Gain/(Loss) Different than Expected	Gain/(Loss) Not Yet Recognized	Adjustment
07/01/09-06/30/10	$ 3,720,617	80%	$ 2,976,494
07/01/08-06/30/09	(19,769,383)	60%	(11,861,630)
07/01/07-06/30/08	(10,944,733)	40%	(4,377,893)
07/01/06-06/30/07	5,386,163	20%	1,077,233
Total			$ (12,185,796)

3. Initital Valuation assets [(1) - (2)] $ 87,060,569

4. Less: adjustment for COLA bank (50% of difference between market value and "asset value before adjustment" as of July 1, 2010, not less than zero) 0

5. Valuation assets [(3) - (4)] $ 87,060,569

6. Actuarial value as a percentage of market 116.3%

TABLE 4

Distribution of Active Members and Average Salary by Age and by Years of Service

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.
Under 25	0	0	2	1	1	0	0	0	0	0	0	0	4
	$ 0	$ 0	$ 32,044	$ 38,337	$ 38,422	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 35,212
25-29	0	0	1	5	3	4	0	0	0	0	0	0	13
	$ 0	$ 0	$ 41,225	$ 39,212	$ 37,666	$ 36,165	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 38,073
30-34	0	0	2	5	5	11	3	0	0	0	0	0	26
	$ 0	$ 0	$ 38,682	$ 36,666	$ 44,297	$ 41,209	$ 45,452	$ 0	$ 0	$ 0	$ 0	$ 0	$ 41,224
35-39	0	1	0	3	0	16	9	2	0	0	0	0	31
	$ 0	$ 42,116	$ 0	$ 39,616	$ 0	$ 43,981	$ 55,178	$ 51,795	$ 0	$ 0	$ 0	$ 0	$ 47,253
40-44	0	2	3	4	2	19	16	8	10	0	0	0	64
	$ 0	$ 46,444	$ 38,152	$ 44,655	$ 39,582	$ 42,607	$ 46,676	$ 53,682	$ 52,250	$ 0	$ 0	$ 0	$ 46,460
45-49	0	1	1	5	2	20	18	15	23	12	0	0	97
	$ 0	$ 12,780	$ 82,400	$ 39,163	$ 43,692	$ 45,045	$ 44,458	$ 54,182	$ 57,000	$ 62,034	$ 0	$ 0	$ 51,007
50-54	0	0	0	2	3	20	16	9	16	12	0	0	78
	$ 0	$ 0	$ 0	$ 39,794	$ 38,919	$ 38,150	$ 50,970	$ 56,494	$ 63,926	$ 54,292	$ 0	$ 0	$ 50,739
55-59	0	0	3	4	5	10	11	9	14	2	0	2	60
	$ 0	$ 0	$ 38,234	$ 34,947	$ 37,882	$ 45,263	$ 49,571	$ 52,563	$ 57,240	$ 61,624	$ 0	$ 72,051	$ 49,726
60-64	0	2	0	0	1	4	8	6	9	1	0	0	31
	$ 0	$ 62,557	$ 0	$ 0	$ 60,685	$ 31,641	$ 50,567	$ 43,615	$ 61,289	$ 54,650	$ 0	$ 0	$ 51,124
65 & Over	0	0	0	0	3	3	1	0	2	1	0	0	10
	$ 0	$ 0	$ 0	$ 0	$ 22,738	$ 35,301	$ 37,567	$ 0	$ 74,241	$ 84,369	$ 0	$ 0	$ 44,453
Total	0	6	12	29	25	107	82	49	74	28	0	2	414
	$ 0	$ 45,483	$ 41,186	$ 38,979	$ 38,981	$ 41,684	$ 48,572	$ 52,836	$ 58,889	$ 59,221	$ 0	$ 72,051	$ 48,464

TABLE 5

Actuarial Methods and Assumptions

Actuarial Valuations:	Actuarial valuations are prepared biennially, as of July 1 of each even-numbered year.
Actuarial Cost Method:	*Entry Age Normal Actuarial Cost Method*: Under this method, the normal cost is the amount calculated as the level percentage of pay necessary to fully fund each active member's prospective benefit from entry age to retirement age. The total actuarial accrued liability, which is redetermined for each individual member as of each valuation date, represents the theoretical accumulation of all prior years' normal costs for the members as if the present plan had always been in effect. The unfunded actuarial accrued liability represents the excess of the total actuarial accrued liability over the valuation assets.
Asset Valuation Method:	The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses. The actuarial value of assets is reduced by an adjustment for the COLA bank (50% of the difference between the market value and the "value before adjustment" as of the valuation date, not less than zero).

Actuarial Assumptions:

1. Mortality

a. Post-retirement mortality rates:

i. Male employees: 115% of the RP-2000 Combined Healthy for Males with White Collar adjustments, projected with Scale AA.

ii. Female employees: 95% of the RP-2000 Combined Healthy for Females with White Collar adjustments, projected with Scale AA.

iii. Disabled males – 60% of the PBGC Table Va for disabled males eligible for Social Security disability benefits.

iv. Disabled females – 60% of the PBGC Table VIa for disabled females eligible for Social Security disability benefits.

b. Active Mortality

i. Male employees: 75% of RP-2000 Combined Healthy for Males with White Collar adjustments.

ii. Female employees: 75% of the RP-2000 Combined Healthy for Females with White Collar adjustments.

2. Investment return rate 7.50% per year, compounded annually, net of investment and administrative expenses.

3. Payroll growth rate Overall payroll is assumed to grow at 3.75% per year.

4. Disability rates

Sample rates per 1,000 active members are shown below. Rates are based on Rhode Island MERS experience for general employees. No recovery is assumed.

Age	Males	Females
25	0.86	0.34
30	1.05	0.42
35	1.43	0.57
40	2.09	0.84
45	3.42	1.37
50	5.80	2.32
55	9.60	3.84
60	13.40	5.36
65	0.00	0.00

5. Termination rates

Rates of withdrawal among active members for reasons other than death or disability or retirement are shown below. Termination rates are not applied to members eligible for retirement. Rates are based on experience of Rhode Island MERS general employees.

Service	Male	Female
0	0.1750	0.1800
1	0.1087	0.1143
2	0.0922	0.0973
3	0.0778	0.0824
4	0.0655	0.0695
5	0.0552	0.0584
6	0.0465	0.0491
7	0.0394	0.0412
8	0.0337	0.0348
9	0.0293	0.0296
10	0.0260	0.0255
11	0.0236	0.0223
12	0.0220	0.0199
13	0.0209	0.0181
14	0.0204	0.0169
15	0.0201	0.0159
16	0.0200	0.0152
17	0.0198	0.0145
18	0.0195	0.0137
19	0.0187	0.0127
20	0.0175	0.0112
21	0.0156	0.0092
22	0.0129	0.0065
23	0.0092	0.0030
24	0.0044	0.0000

6. Salary increase rates

The sum of (i) a 4.00% wage inflation assumption (composed of a 2.75% price inflation assumption and a 1.25% additional general increase), and (ii) a service-related component as shown below. The assumption is based on experience of Rhode Island MERS general employees.

Years of Service	Service-Related Component	Total Increase
0	4.00%	8.00%
1	3.00	7.00
2	2.75	6.75
3	2.50	6.50
4	2.25	6.25
5	2.00	6.00
6	1.25	5.25
7	0.75	4.75
8-9	0.50	4.50
10-14	0.25	4.25
15 or more	0.00	4.00

7. Retirement rates: Active members are assumed to retire in accordance with the following probabilities:

Age	Probability of Retirement*	Age	Probability of Retirement*
55	4.00%	61	15.00%
56	4.00	62	30.00
57	4.00	63	25.00
58	5.00	64	25.00
59	5.00	65	60.00
60	15.00	66	80.00
		67	100.00

* Members whose age plus service is at least equal to 80 are assumed to retire at a rate no less than 25% per annum.

Terminated vested members are assumed to retire when eligible for normal retirement with service at termination date.

8. Investment and Administrative Expenses The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

9. Benefit and Compensation Limits Benefit limits under Section 415 and compensation limits under Section 401(a)(17) of the Internal Revenue Code are assumed to have no impact on benefits earned under this plan.

10. Marriage 85% of men and 55% of women are assumed to be married before retirement. Husbands are assumed to be three years older than wives.

11. Military Service Buyback None assumed.

12. Sick Pay Buyback 25% of employees are assumed to apply their unused sick pay toward the purchase of 6 months of additional pension service at termination or retirement.

13.	***Cost-of-living Increases***	None assumed. Plan provides cost-of-living increases contingent on the adequacy of a "bank" determined by fund performance.
14.	***Interest on accounts***	Interest is credited to member contribution accounts based on a short-term return, assumed to be 3.00% per annum in the future.
15.	***Decrement Timing***	For all members, decrements are assumed to occur at the beginning of the year.

TABLE 6

Outline of Principal Plan Provisions

1. Effective Dates:

a.	Original Plan	July 1, 1965.
b.	Most Recent Amendment Recognized in Valuation	July 1, 2000.

***2. Eligibility*:** Non-elected employees are eligible to participate after 6 months of employment. Elected officials are eligible on the date they assume their elected position.

***3. Normal Retirement*:**

a.	Eligibility	Non-elected members who have attained age 65 and have reached their fifth anniversary of participation, and elected members who have attained age 60 and have reached their sixth anniversary of participation may retire.
b.	Benefit Formula	The monthly benefit at retirement is equal to 2.50% of final average monthly compensation multiplied by years of creditable service. Final average monthly compensation is one-twelfth of the average of the highest three consecutive years of base compensation. However, no elected member will receive less than one-twelfth of the sum of $1,500 plus $200 multiplied by years of creditable service; the sum not to exceed $5,500. Plan compensation is equal to the sum of base compensation and longevity pay.
c.	Commencement Date	Payments will commence on the first day of the month coincident with or next following the member's actual retirement and filing of his written application for benefits.
d.	Form of Payment	The benefits calculated in accordance with the formula in (b) above are payable monthly with payments ceasing at the retired member's death. The member may also elect actuarially reduced benefits that are payable in the form of a 100%, 75%, or 50% joint and survivor annuity, 10-year certain and continuous annuity, or level income annuity. In no event will the total monthly benefits paid to a retired member and his beneficiary be less than the contributions made by the member during employment.

4. Early Retirement:

a.	Eligibility	Any member other than an elected official who retires after age 55 with at least 10 years of creditable service or any member whose years of age plus service total 80 or more. An elected official is eligible upon attainment of age 55 with at least 6 years of service.
b.	Benefit Formula	The benefit amount determined under the normal retirement formula above, reduced for commencement prior to age 65, is payable at early retirement. The reduction is equal to ½% per month for the first sixty months prior to normal retirement age, plus $^{1}/_{3}$% per month thereafter. If the sum of the retired member's years of age plus service is at least equal to 80, there is no reduction for early commencement.
c.	Commencement Date	The first day of the month coincident with or next following the member's early retirement date and filing of his written application for benefits.
d.	Form of Payment	Same as normal retirement.

5. Late Retirement:

a.	Eligibility	Continued employment beyond normal retirement.
b.	Benefit Formula	Same as normal retirement benefit formula determined as of the member's actual retirement date.
c.	Commencement Date	The first day of the month coincident with or next following the member's late retirement and filing of his written application for benefits.
d.	Form of Payment	Same as normal retirement.

6. Vested Termination:

a.	Eligibility	Upon termination of employment, a non-elected member is eligible for a benefit deferred to retirement age after 10 years of creditable service. An elected member is eligible after 6 years of creditable service.
b.	Benefit Formula	Same as early retirement. For all members except elected officials, the benefit amount determined under the normal retirement formula is increased by 3% per year between termination and retirement. In lieu of receiving retirement benefits, a member may receive in a lump sum payment his or her accumulated contributions with interest at any time prior to commencement of retirement benefits.
c.	Commencement Date	First day of the month following receipt of the member's written application but not before the member is eligible for early retirement.
d.	Form of Payment	Same as normal retirement.

7. Disability Retirement:

a.	Eligibility	A non-elected member who has completed 10 years of creditable service or an elected member who has completed 6 years of creditable service, and who is totally disabled as determined by the City's Medical Board.
b.	Benefit Formula	Same as normal retirement above but reduced by Worker's Compensation payments.
c.	Commencement Date	Retroactively payable to the first day of the month which is two months prior to the date a member is determined to be disabled, but no earlier than 90 days after the date of disability.
d.	Form of Payment	Payable monthly with payments ceasing at the member's death. Benefits shall cease if a member recovers prior to age 65.

8. Non-vested Termination of Employment:		A non-elected member who leaves employment prior to completing 10 years of creditable service or an elected member who leaves prior to completing 6 years of creditable service will receive a lump sum payment of his accumulated contributions with interest.
9. Death Before Retirement -- Annuity to Surviving Spouse:		
a.	Eligibility	Any married non-elected member with 10 years of creditable service or any married elected member with 6 years of creditable service who dies while still employed after age 50.
b.	Benefit Formula	The benefit is the same as vested deferred or early retirement with reduction for each month by which benefit commencement precedes age 65 and further reduced to reflect the optional form of payment which provides payments at the same rate to the surviving spouse. A member's surviving spouse may elect to receive a lump sum payment equal to the member's accumulated contributions with interest in lieu of the annuity described above.
c.	Commencement Date	First day of the month following the later of the member's death or the member's earliest retirement date.
d.	Form of Payment	Annuity providing monthly payments ceasing on the spouse's death.
10. Death Before Retirement - Lump Sum Refund of Contributions:		
a.	Eligibility	Any terminated member with a deferred vested benefit, or an active member not eligible for the surviving spouse's annuity described above.
b.	Benefit	Lump sum payment equal to member's accumulated contributions with interest.

11. Additional Death Benefit:

a.	Eligibility	Any active member or retired member.
b.	Benefit	An $8,000 lump sum amount will be paid to the deceased member's designated beneficiary in addition to any other death benefits provided by the plan.

12. Retiree Cost-of-Living Increases: An increase is provided annually on July 1 to all retired members and beneficiaries in pay status if the plan's cumulative investment return as of the previous July 1 has exceeded a target level based on negotiated salary increases for active employees.

13. Military Service Buyback: An active employee eligible to retire, or who has attained age 55 and completed eight years of creditable service, and who has served in the U.S. armed forces, may "purchase" additional years of creditable service up to his number of years of military service, but no more than four years. This purchase would require the employee to contribute to the plan at retirement 6% of his final year's salary for each year of creditable service purchased.

14. Unused Sick Pay Buyback: A member may, in lieu of receiving one half of his accumulated sick pay in cash at termination or retirement, receive pension service credit for the unused sick pay (6-month maximum).

15. Employee Contributions: A non-elected member contributes 8% of his annual base compensation and longevity compensation; an elected member contributes 8% of his annual base compensation plus $20 per month. Employee contributions are made on a pre-tax basis under IRC Section 414(h)(2). Contributions receive interest determined annually by the Retirement Board.

Glossary

Actuarial Accrued Liability (AAL): That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.

Actuarial Assumptions: Assumptions as to future experience under the Fund. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:

- mortality, withdrawal, disablement, and retirement;
- future increases in salary;
- future rates of investment earnings and future investment and administrative expenses;
- characteristics of members not specified in the data, such as marital status;
- characteristics of future members;
- future elections made by members; and
- other relevant items.

Actuarial Cost Method or ***Funding Method:*** A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ARC.

Actuarial Gain or ***Actuarial Loss:*** A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Fund's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

Actuarially Equivalent: Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV): The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)

b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and

c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation: The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB 25, such as the funded ratio and the ARC.

Actuarial Value of Assets or ***Valuation Assets:*** The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ARC.

Actuarially Determined: Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: That portion of the pension plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Annual Required Contribution (ARC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB 25. The ARC consists of the Employer Normal Cost and the Amortization Payment

Closed Amortization Period: A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan that is not a Defined Contribution Plan. Typically a defined benefit plan is one in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA, although GASB 25 reporting requires the use of the AVA.

Funding Period or ***Amortization Period:*** The term "Funding Period" is used it two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ARC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 25 and ***GASB 27***: Governmental Accounting Standards Board Statements No. 25 and No. 27. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

Valuation Date or Actuarial Valuation Date: The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.